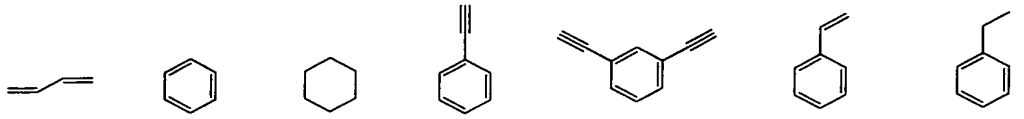
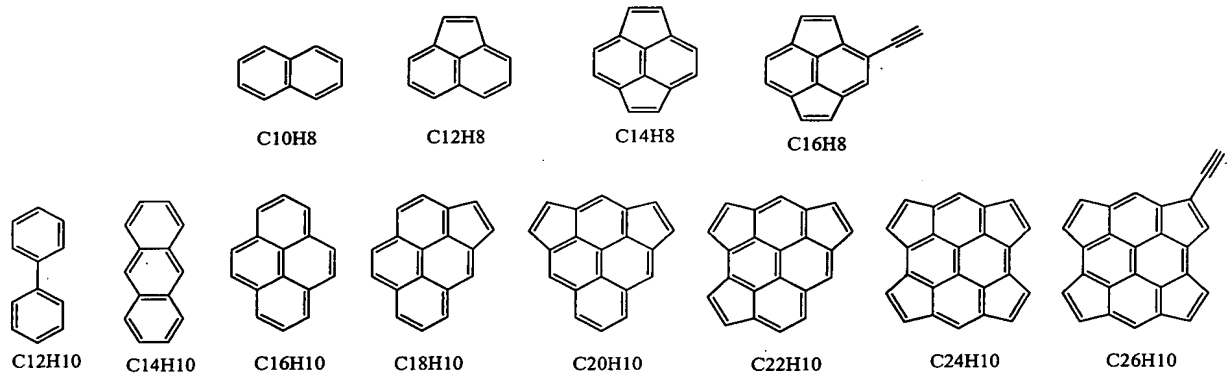
Figure 1

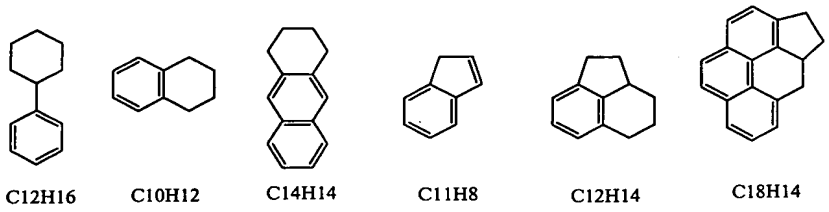
Non-Polycyclic Hydrocarbons



Polycyclic Aromatic Hydrocarbons



Partially Hydrogenated Polycyclic Aromatic Hydrocarbons



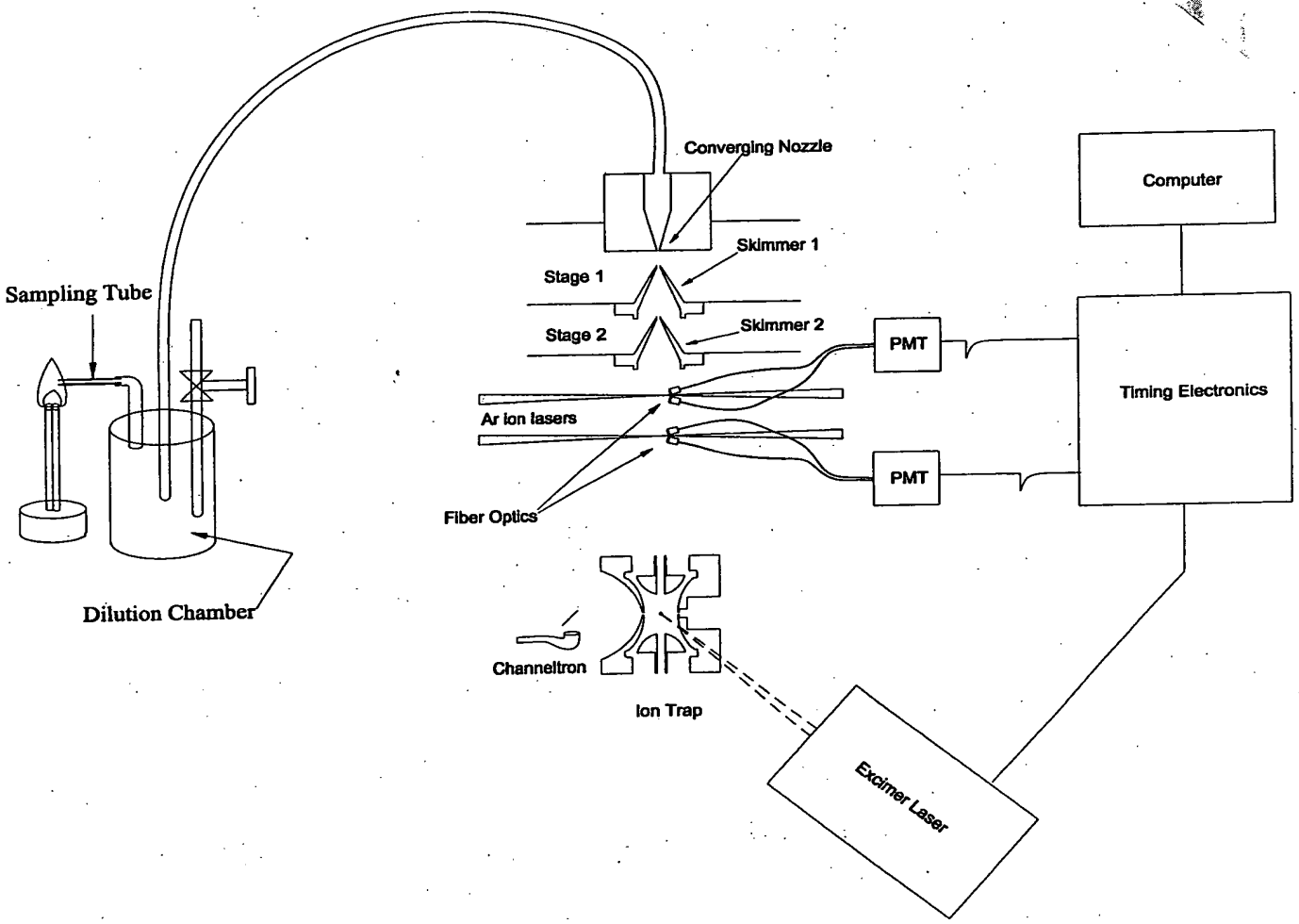

Converging Nozzle
Computer
Skimmer 1
Stage 1
Sampling Tube
Skimmer 2
Stage 2
PMT
Timing Electronics
Ar ion lasers
PMT
Fiber Optics
Channeltron
Ion Trap
Excimer Laser
Dilution Chamber

Figure 2

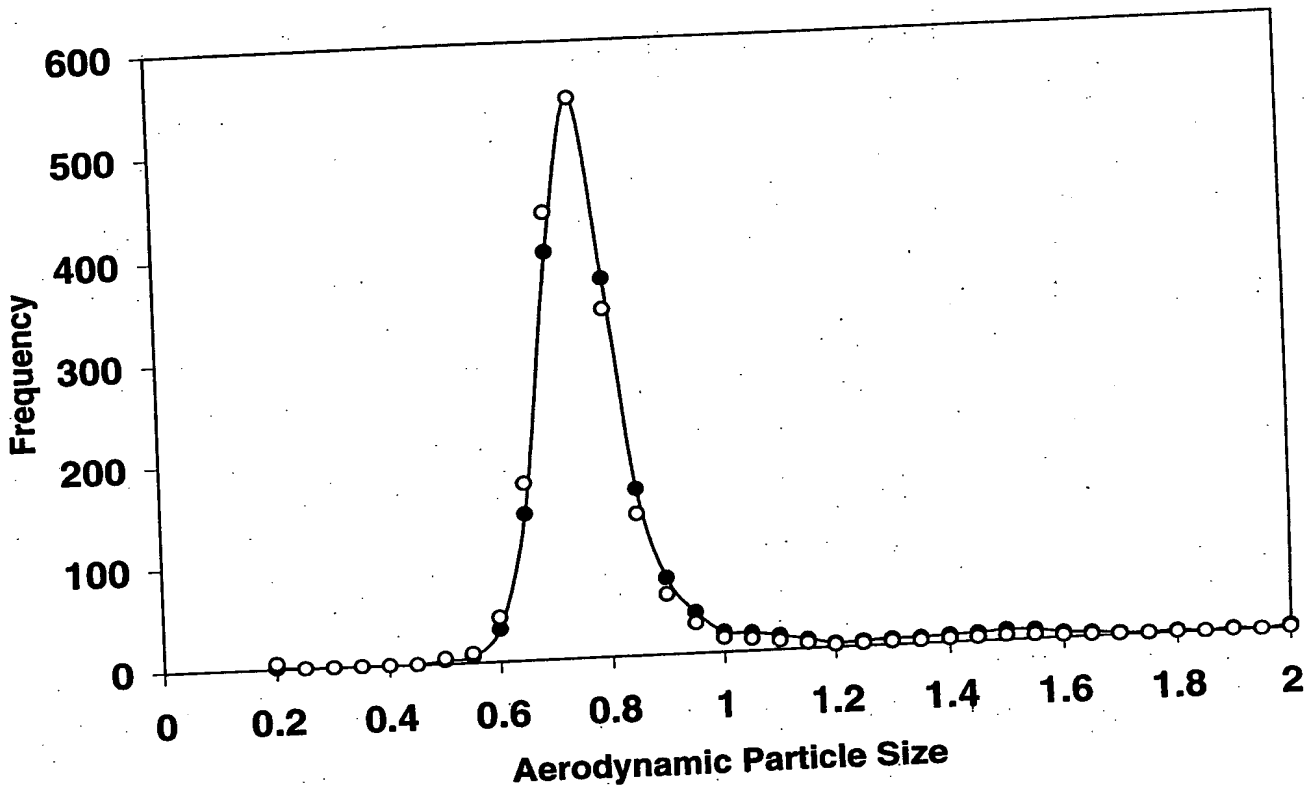

600
500
400
300
200
100
0
Frequency
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Aerodynamic Particle Size

Figure 3

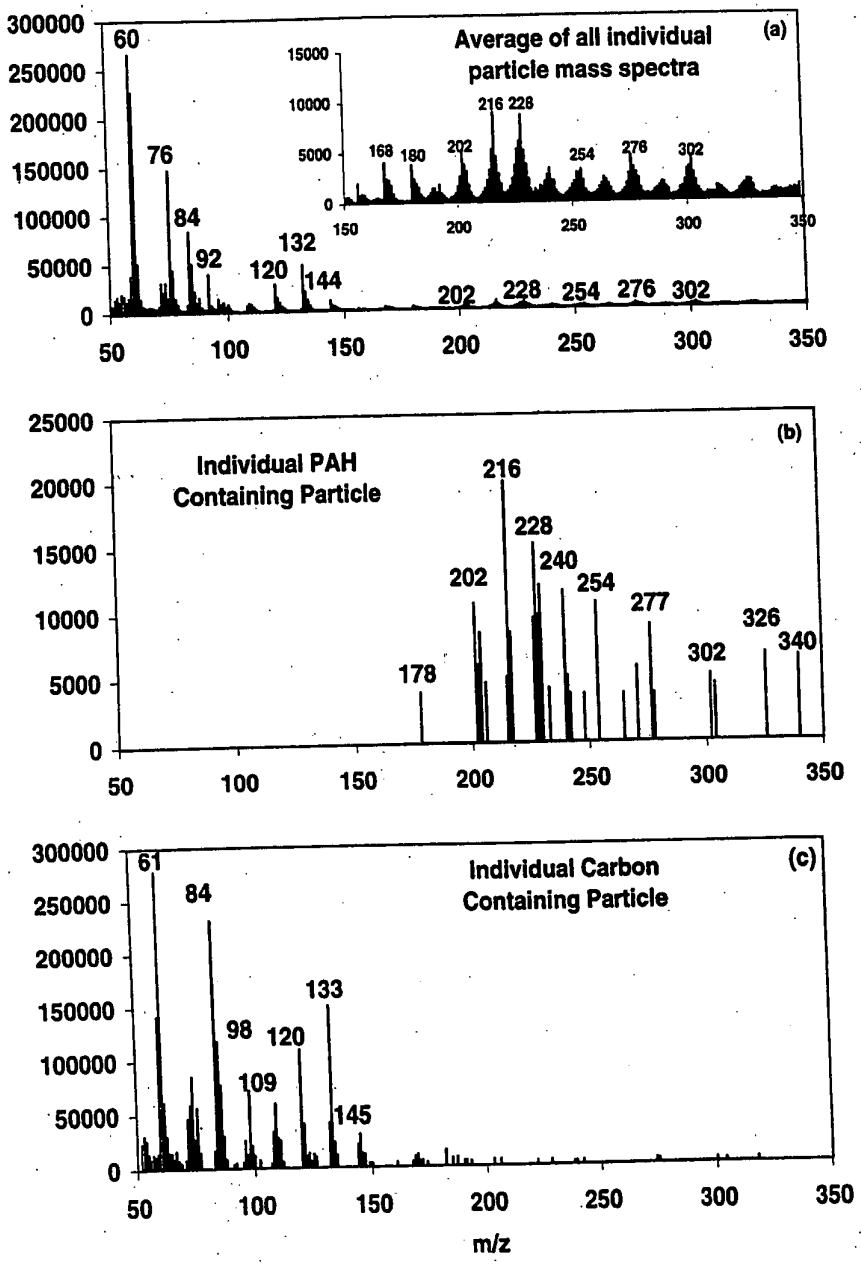

(a)
Average of all individual particle mass spectra
60
76
84
92
120
132
144
202
228
254
276
302
168
180
216
(b)
Individual PAH Containing Particle
178
240
277
326
340
(c)
Individual Carbon Containing Particle
61
98
109
133
145
m/z

Figure 4

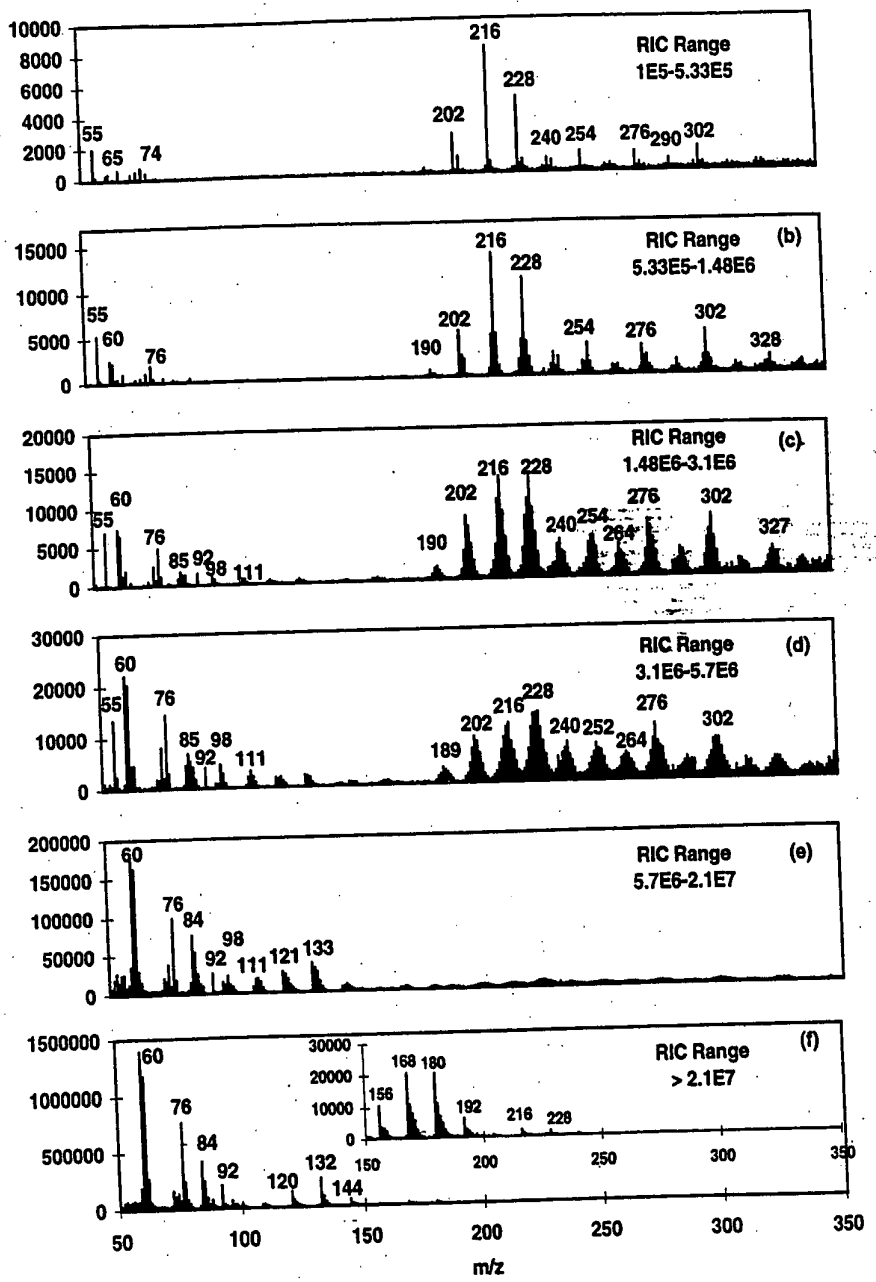


Figure 5

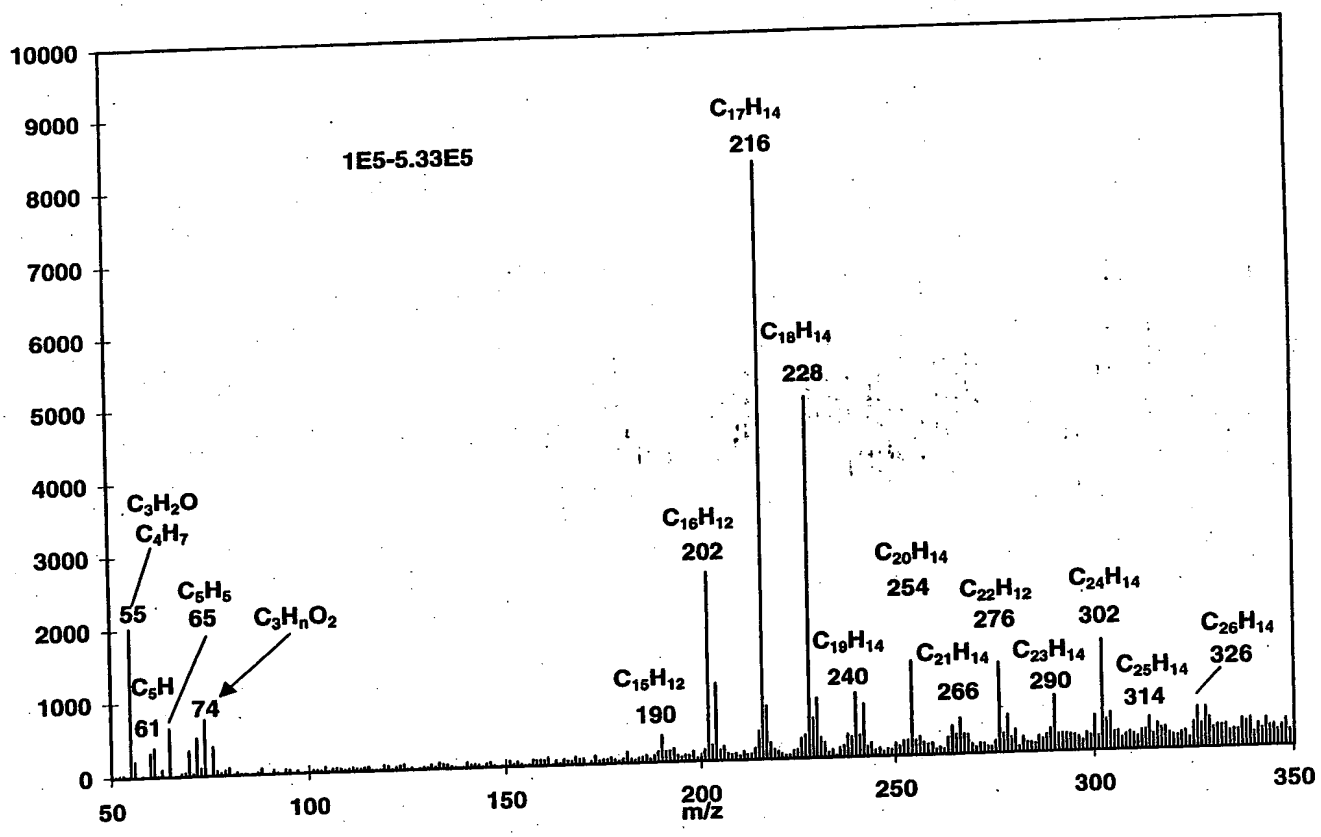

1E5-5.33E5
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
50
100
150
200
250
300
350
m/z
C_3H_2O
C_4H_7
55
C_5H_5
65
$C_3H_nO_2$
C_5H
61
74
$C_{15}H_{12}$
190
$C_{16}H_{12}$
202
$C_{17}H_{14}$
216
$C_{18}H_{14}$
228
$C_{19}H_{14}$
240
$C_{20}H_{14}$
254
$C_{21}H_{14}$
266
$C_{22}H_{12}$
276
$C_{23}H_{14}$
290
$C_{24}H_{14}$
302
$C_{25}H_{14}$
314
$C_{26}H_{14}$
326

Figure 6

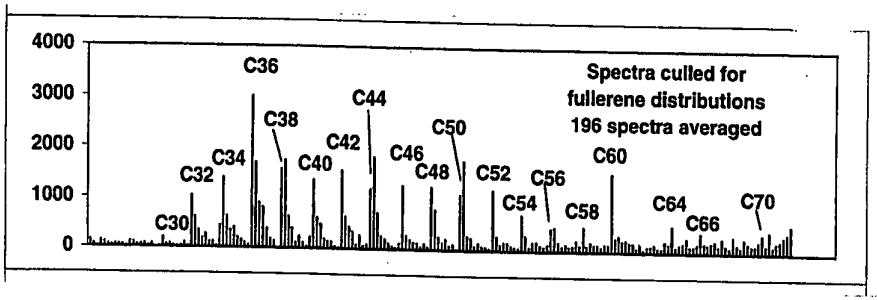


Figure 7

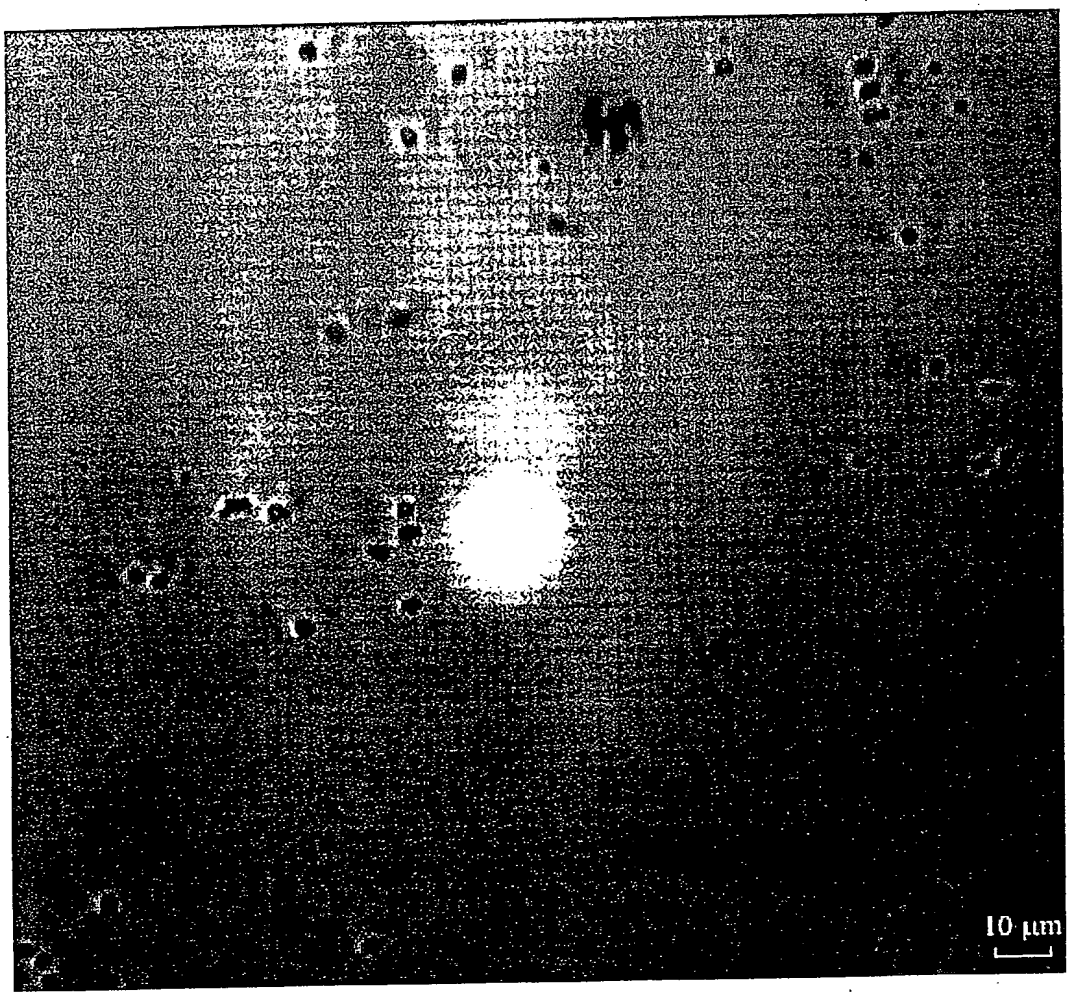


Figure 8